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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/895,152	07/02/2001	David R. Brown	2119-0160P	9526

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OLDS, MAIER & RICHARDSON, PLLC  
PO BOX 20245  
ALEXANDRIA, VA 22320-1245

EXAMINER
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CHACKO DAVIS, DABORAH

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 10/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/895,152

Applicant(s)

BROWN ET AL.

Examiner

Daborah Chacko-Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on RCE filed on 09/08/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-25, 27, 28 and 36-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-25, 27, 28 and 36-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4, 6-25, 27-28, and 36-42, are rejected under 35 U.S.C. 102(e) as being anticipated by U. S. Patent No. 6,071,652 (Feldman et al).

Feldman, in the abstract, in col 4, lines 25-58, discloses a method of forming a gray level mask comprising performing a direct writing with a laser on a photosensitive layer(photoresist layer), wherein each pass is offset such the a single pass is performed in a single portion (single path, no two passes write along the same path, see reference 8a of figure 1b), developing the exposed photosensitive layer, and removing the remaining photoresist pattern after etching. Feldman, in col 5, lines 5-12, and in col 8, lines 46-47, discloses that the gray level mask formation method has a better control on sidewall sharpness and depth (no stitching errors), and also reduces alignment errors (reduction of non-uniformity) (claims 1, 3, 6-8, 22-24, 28, 36, 38, 40-41). Feldman, in col 4, lines 42-45, discloses etching the photosensitive material (claims 2, and 27). Feldman, in col 5, lines 48-55, discloses that at least 8 passes are performed (8 levels formed, pattern written) (claims 4, 11, 21, 25, 37). Feldman, in col 4, lines 41-45,

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discloses that the pattern in the photoresist layer is transferred to the substrate layer by etching (claim 9). Feldman, in col 4, lines 38-41, discloses that a mask can be used to perform an exposure (pass) (claim 10). Feldman, in the abstract, and in col 8, lines 7-22, discloses that the photoresist layer is heated to about 115°C so as to cause a reflow in the photoresist (melting) to eliminate roughness, wherein the reflow (melting of the photoresist) is performed to eliminate obvious discontinuities on the surface of the photoresist (claims 12-17, 39, and 42). Feldman, in col 2, lines 43-49, in col 3, lines 20-23, and lines 32-40, and in col 4, lines 45-48, discloses that photoresist can be exposed (to form a pattern) using gray scale lithography, wherein the gray scale lithography can be performed using a mask from half-toning or using a mask having a variable amplitude transmission with continuous level phase transmission (modulated) (claims 18-20).

### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1-4, 6-25, 27-28, and 36-42, have been considered but are moot in view of the new ground(s) of rejection. The 102 and 103 rejections made in the previous office action have been withdrawn. A new 102 rejection is made over pending claims. See paragraph no. 2.


### ***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daborah Chacko-Davis whose telephone number is

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(571) 272-1380. The examiner can normally be reached on M-F 9:30 - 6:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark F Huff can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dcd

  
October 3, 2005.

  
**JOHN A. MCPHERSON**  
**PRIMARY EXAMINER**